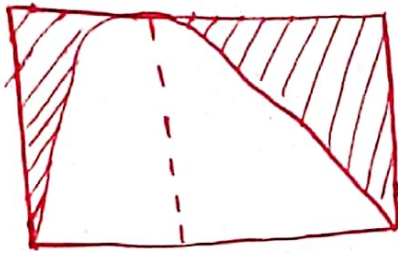


- 1- The figure below is a rectangle inside is a semi-circle, the area of the shaded part is  $336\text{cm}^2$ . Use it to answer the questions that follow.



- (a) Find the diameter of the semi-circle

Soln.

Let the radius of the semi-circle be  $m$

Length =  $2m$

Width = radius =  $m$

Area of the shaded part

$$\text{Area} = L \times w - \frac{1}{2}\pi r^2$$



$$336\text{cm}^2 = 2m \times m - \frac{22}{7} \times m \times m$$

$$336\text{cm}^2 = \frac{2m^2}{1} - \frac{22m^2 \times 7}{14}$$

$$336\text{cm}^2 = \frac{28m^2 - 22m^2}{14}$$

$$\frac{336\text{cm}^2}{1} = \frac{6m^2}{14}$$

$$6m^2 = 336\text{cm}^2 \times 14$$

$$\frac{6m^2}{6} = \frac{784\text{cm}^2}{6}$$

$$m^2 = 784\text{cm}^2$$

$$\sqrt{m^2} = \sqrt{784\text{cm}^2}$$

$$m = 28\text{cm}$$

Diameter

$$= 2 \times r$$

$$= 2 \times 28\text{cm}$$

$$= 56\text{cm}$$